REMARKS

I.   Status of claims

Claims 2-8 are pending in the application Reconsideration is respectfully requested in view of the above amendments and the following remarks.

II.   Comments on Response to Arguments

Withdrawal of the rejection of claims 2 and 4 under 35 U.S.C. §112 is gratefully acknowledged.

On page 2 of the Office Action , the Examiner disagrees with the assertion that the Examiner has ignored two limitations (Page 2, 3rd full paragraph of Office Action). The Examiner's attention is respectfully directed, as an example, to page 8, last two paragraphs through page 9, third paragraph of the Office action, which states that "Examiner has given little/no patentable weight to the limitations....". That is, "[a]ll words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970); *In re Edward S. Lowry*, 32 F.3d 1579, 1582 (Fed. Cir. 1994).

On page 3, paragraph 2, of the Office Action, the Examiner states that for the disclosure of providing a distribution graph and dividing the distribution graph into a plurality of vertical slices, each of said slices corresponding to a volatility, the "Examiner does not rely on Official Notice. The Examiner's attention is directed to page 12, lines 1 and 2 of the Office Action ,which state "Examiner recognizes that providing a distribution graph and dividing the distribution graph into a plurality of vertical slices is well known in the art". Applicant recognizes that the Examiner also provides the Yuguchi reference. It is noted that neither the

Yuguchi reference nor the statement regarding what is well known is pertinent to a plurality of vertical slices, each corresponding to a volatility as required by the claims.

On page 4 of the Office Action, the Examiner disagrees with applicant's statement that the derivation of the equations in the claims is not part of the claimed invention. Applicant respectfully requests that the Examiner point to pertinent language in the claims that references "derivation" of the equations.

Furthermore, applicant believes that the derivation is explained in the specification to the extent required for enablement and adequate written description. Applicant assumes that the Examiner's agrees with this assessment due to the lack of any pertinent rejection. Specifically, after describing the method for modeling a swap option employed by Hull and White, applicant's specification specifically states that the invention extends the Hull method by creating a lognormal distribution of the volatility instead of the variance and incorporating non-zero correlation between volatilities and rates. See page 3, first full paragraph of originally filed specification. Applicant believes this to be a summary of the most pertinent prior art known to the applicant and a concise explanation of the principles by which the implemented equation was derived. As set forth above, the derivation itself is not contained within the claims. Rather, the implementation of the equation in determining a premium forms a part of some of the claims.

Applicant respectfully submits that the asserted combination is extremely far reaching and it is simply untenable that one skilled in the art would have found it obvious to combine the applied references to arrive at the claimed invention. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the results would have been predictable to one of ordinary skill in the art. *KSR International Co. v. Teleflex Inc.*,

82 USPQ2d 1385, 1396 (2007) Furthermore, if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959).

While the invention is centered on the use of stochastic volatility to obtain a more accurate swaption model, Daughtery, the primary reference, has an entirely different objective and prices an expirationless option in order to negate the effects of time on risk. In Daughtery, any option pricing algorithm may be used to determine expirationless option prices and the variables are manipulated to facilitate pricing of an expirationless option. See Column 11, lines 30-60. Thus, no selected equation would improve the performance of Daughtery as the choice of equation in Daughtery has no positive impact on the outcome of the process. Thus, the two references have entirely different objectives and implementation of Daughtery to arrive at the claimed invention would not have been obvious to anyone skilled in the art .

III. Claim Rejections

A. Rejection of Claim 2 under 35 U.S.C. §103

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,263,321 to Daughtery in view of "Black-Scholes and Beyond. Option Pricing Models" by Neil A. Chriss (hereinafter "Chriss"), US Patent No. 6,456,982 to Pilipovic, US Patent No. 3,673,521 to Yuguchi, and further in view of Applicant's admitted prior art. This rejection is respectfully traversed.

(i) Even if combined the references would not have resulted in the invention

Even if combined the references would not have resulted in the invention of claim 2. The Office Action thus fails to establish a *prima facie* case of obviousness. Specifically, before considering what would be obvious to one of ordinary skill in the art at the time of the invention, the art must teach or suggest the claim limitations. See MPEP §2143.

Daughtery, the primary reference applied by the Office Action, focuses on the calculation of expirationless option prices. Daughtery discloses the familiar Black-Scholes algorithm (see Daughtery, col 11, lines 32-49), which was discussed by Applicants in the background of the invention. Black Scholes is a function of volatility of rates and assumes a constant volatility. Daughtery further discloses that any option pricing algorithm may be used to determine expirationless option prices. See column 11, lines 31 and 32 of Daughtery.

Daughtery fails to disclose several features of independent claim 2 including at least: (1) providing the volatility of volatility of the asset by employing historical data; (2) providing a volatility distribution graph based on the selected distribution type, the volatility and the volatility of volatility, the graph having volatility as the x-axis and probability as the y-axis; (3) dividing the volatility distribution graph into a plurality of vertical slices, each of said slices corresponding to a volatility, whereby the integration of the graph over the volatility range corresponding to each slice provides a probability for the corresponding volatility; (4) determining an option premium for each vertical slice by employing a volatility premium calculation equation; (5) weighing each premium from said determining of premium step by the probability associated with the corresponding volatility as determined from the volatility distribution graph; (6) and summing all weighed premiums associated with the volatilities to provide a premium for the option, wherein the volatility premium calculation equation used to

determine the stochastic volatility premium incorporates a trader-selected q to calculate the value

of a call option on rate r with forward value $\bar{r}$, strike k, expiration time t, and annualized

volatility σ a and is given by the following formula:

$BSQ(\bar{r},c,\sigma,t) = \bar{r}\frac{1}{q}.\Phi(d_1) + \bar{r}(1 - \frac{1}{q} - \tilde{k}).\Phi(d_2)$ where Φ is the normal cumulative inverse

function and $\tilde{k} = k/\bar{r}$; $\tilde{x} = -\frac{1}{q}\ln[(\tilde{k}-1)q+1]/(\sigma\sqrt{t})$; $d_1 = \tilde{x} + \frac{1}{2}q\sigma\sqrt{t}$; $d_2 = \tilde{x} - \frac{1}{2}q\sigma\sqrt{t}$.

With respect to (1) providing the volatility of volatility of the asset by employing

historical data, the Office Action admits on page 7, lines 4 and 5, that Daughtery fails to disclose

this feature, but alleges that it would have been obvious to incorporate this feature, since the

feature is known as illustrated by Chriss.

With respect to (2) providing a volatility distribution graph based on the selected

distribution type, the volatility and the volatility of volatility, the graph having volatility as the x-

axis and probability as the y-axis and feature (3) dividing the volatility distribution graph into a

plurality of vertical slices, each of said slices corresponding to a volatility, the Office Action

admits that Daughtery, Chriss, and Pilopovic fail to disclose this feature and relies instead on

Official Notice and/or Yuguchi to disclose this feature. The Office Action alleges that the

integration of the graph over the volatility range corresponding to each slice provides a

probability for the volatility.

Applicant traverses the assertion that dividing a volatility distribution graph into vertical

slices, wherein each slice corresponds to a volatility, is well known in the art for calculating an

option premium. The fact that a program can be written to accomplish this, (spreadsheet

program, page 8, paragraph 3 of Office Action) is not a disclosure that the process is known.

Furthermore, Yuguchi fails to disclose this feature. Yuguchi is non-analogous art and discloses a

technique for equalizing transmission loss in an equalizer network. Yuguchi does not even mention volatility and thus is completely void of any suggestion of the claimed feature.

Additionally, with respect to feature (3) dividing the volatility distribution graph into a plurality of vertical slices, each of said slices corresponding to a volatility, whereby the integration of the graph over the volatility range corresponding to each slice provides a probability for the corresponding volatility, the Office Action fails to identify any reference that discloses this feature or even to implement Official Notice.

With respect to (4) determining an option premium for each vertical slice by employing a volatility premium calculation equation, as set forth above, since Daughtery assumes constant volatility, there can be absolutely no disclosure in Daughtery for determining an option premium for each vertical slice by employing a volatility premium calculation equation.

With respect to features (5) and (6) the Office Action specifies that the Examiner has given "little/no" patentable weight to multiple limitations. For reasons not elucidated, the Examiner feels that these limitations do not change the scope of the claim. Applicant notes that in order to establish a *prima facie* case of obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). That is, "[a]ll words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970); *In re Edward S. Lowry*, 32 F.3d 1579, 1582 (Fed. Cir. 1994).

The limitations that the Examiner has chosen to "deny weight" include (5) weighing each option premium from said determining step by the probability associated with the corresponding volatility as determined from the volatility distribution graph; and (6) summing all weighed

option premiums associated with the volatilities to provide a premium for the option. Applicant simply cannot understand how these affirmative limitations fail to limit the scope of the claim and why these limitations are being given "little/no" patentable weight. In fact, applicant requests clarification as to the meaning of "little" patentable weight.

The distinctive features referenced above are merely representative of the many features of claim 2, lacking in the Office Action. Furthermore, with respect to the use of the equations shown in claim 2, the Examiner asserts that the burden is on the applicant to establish non-obviousness on page 6, first paragraph or the Office Action. Applicant respectfully submits that the Examiner has misplaced the burdens. It is the burden of the PTO to establish a *prima facie* case of obviousness and this has not been done. The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness. See MPEP §2142.

The derivation of the equations in the claims is not part of the claimed invention. Applicant has no obligation to provide this derivation or even to be aware of how it is accomplished. The present specification fully describes the invention as required. While the Applicant is supportive of the Examiner's quest for background information and has complied as fully as possible, even going beyond the duty of disclosure to search prior art references, Applicant respectfully submits that the claims presented for examination are fully supported by the specification and are clear and definite and are in condition for examination. If the Examiner is unable to find relevant prior art, either through the Examiner's own efforts or the supplemental extended efforts made by the Applicant, then the Examiner should allow the claims. As set forth above, before considering what would be obvious to one of ordinary skill in

the art at the time of the invention, the art must teach or suggest the claim limitations. See

MPEP §2143. No reference on record discloses or renders obvious the use of this volatility

premium calculation equation in the claimed method.

(ii) No motivation would have existed to combine the references

With respect to the secondary references, as set forth in the Office Action, Chriss

illustrates that the concept of stochastic volatility is known fails to disclose how this concept

could be implemented for generating a premium for an option as required by claim 2. As

previously explained, Daughtery discloses the Black Scholes algorithm for calculating an option

premium. Furthermore, the summation in Daughtery is over "n", which is the number of periods

until expiration for an expiring option, not over multiple volatilities. The single volatility

variable is represented by "S" in Daughtery. The volatility "S" in Daughtery is assumed to be

constant. Therefore, Daughtery does not even disclose a "volatility range" and most certainly

fails to disclose dividing a volatility graph into a plurality of vertical slices, wherein each slice

corresponds to a volatility.

Furthermore, the additional secondary references including Pilipovic, Yuguchi, and

Official Notice fail to obviate the deficiencies of Daughtery identified above. As set forth above,

multiple features remain lacking. Furthermore, clearly no reason would have existed to modify

Daughtery to include the many steps of the claimed method that Daughtery lacks.

The key to supporting any rejection under 35 U.S.C. § 103 is the clear articulation of the

reason(s) why the claimed invention would have been obvious. *KSR International Co. v.

Teleflex Inc.*, 82 USPQ2d 1385, 1396 (2007). Applicants respectfully submit that one skilled in

the financial arts would have had absolutely no motivation to combine the teachings of these

disparate references with Daughtery to arrive at the invention as claimed. Accordingly, withdrawal of the rejection is respectfully requested.

B. Rejection of Claim 3 under 35 U.S.C §103

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Daughtery in view of Chriss, Pilipovic, Yuguchi, and Applicant's admitted prior art and further in view of a non-patent literature titled Financial Engineering News, (hereinafter "FEN"). This rejection is respectfully traversed.

(i) Even if combined the references would not have resulted in the invention

Even if combined, the references would not have resulted in the invention of claim 3. The Office Action thus fails to establish a *prima facie* case of obviousness. Specifically, before considering what would be obvious to one of ordinary skill in the art at the time of the invention, the art must teach or suggest the claim limitations. See MPEP §2143.

Even in combination with Chriss, Pilopovic, Yuguchi, FEN, and Admitted Prior art ad/or Official Notice, Daughtery would not have arrived at the invention of claims 3. Initially, as set forth above with respect to claim 2, the Office Action fails to establish a prima facie case obviousness as it has not shown all claim limitations. On page 12 of the Office Action, the Examiner specifies that "little/no" patentable weight is given to multiple limitations. For reasons not elucidated, the Examiner feels that these limitations do not change the scope of the claim. Applicant notes that in order to establish a *prima facie* case of obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). That is, "[a]ll words in a claim must be considered in

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judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 165

USPQ 494, 496 (CCPA 1970); *In re Edward S. Lowry*, 32 F.3d 1579, 1582 (Fed. Cir. 1994).

The limitations that the Examiner has chosen to ignore include (1) weighing each option

premium from said determining step by the probability associated with the corresponding

volatility as determined from the volatility distribution graph; and (2) summing all weighed

option premiums associated with the volatilities to provide a premium for the option. Applicant

simply cannot understand how these affirmative limitations fail to limit the scope of the claim

and why these limitations are being given "little/no" patentable weight. In fact, applicant

requests clarification as to the meaning of "little" patentable weight.

Claim 3 requires a method for generating a premium for an option. The method requires

providing the average volatility of the asset by employing historical or market data and providing

the volatility of volatility of the asset by employing historical data. Claim 3 further requires

providing the type of distribution for the forward rate based on historical data and providing a

volatility distribution graph based on the selected distribution type. Claim 3 further requires

dividing the volatility distribution graph into a plurality of vertical slices, each of said slices

corresponding to a volatility, whereby the integration of the graph over the volatility range

corresponding to each slice provides a probability for the corresponding volatility. Additionally,

claim 3 requires determining an option premium for each vertical slice by employing a volatility

premium calculation equation, weighing each premium by the probability associated with the

corresponding volatility as determined from the volatility distribution graph, and summing all

weighed premiums associated with the volatilities to provide a premium for the option. Finally,

claim 3 requires performing an inverse Black procedure to determine the conventional market implied volatility for a strike rate that is different from the forward rate.

Daughtery discloses the familiar Black-Scholes algorithm (see Daughtery, col 11, lines 32-49), which was discussed by Applicants in the background of the invention. Black Scholes is a function of volatility of rates and assumes a constant volatility. Similar to the arguments set forth above with respect to claim 2, the references fail to disclose multiple analogous features of claim 3. The addition of the FEN reference to show the use of an Inverse Black Scholes procedure fails to obviate the deficiencies already identified above with respect to the features of claim 3 that also appear in claim 2.

(ii) No motivation would have existed to combine the references

With respect to the secondary references, as set forth in the Office Action, Chriss illustrates that the concept of stochastic volatility is known but makes no suggestion of implementing this concept for generating a premium for an option as required by claim 3. As previously explained, Daughtery discloses the Black Scholes algorithm for calculating an option premium. Furthermore, the summation in Daughtery is over "n", which is the number of periods until expiration for an expiring option, not over multiple volatilities. The single volatility variable is represented by "S" in Daughtery. The volatility "S" in Daughtery is assumed to be constant. Therefore, Daughtery does not even disclose a "volatility range" and most certainly fails to disclose dividing a volatility graph into a plurality of vertical slices, wherein each slice corresponds to a volatility.

With respect to the secondary references, Chriss illustrates that stochastic volatility is known. FEN also illustrates that volatility may be viewed as a surface rather than as a constant. However, these references fail to obviate the deficiencies set forth above. Even if Daughtery were modified to consider stochastic volatility or "volatility of volatility", the references provide insufficient teaching to arrive at the method set forth in claim 3. Furthermore, the additional secondary references including Pilipovic, Yuguchi, and any admitted prior art/Official Notice fail to obviate the deficiencies of Daughtery identified above. As set forth above, multiple features remain lacking.

Furthermore, clearly no reason would have existed to modify Daughtery to include the many steps of the claimed method that Daughtery lacks. The key to supporting any rejection under 35 U.S.C. § 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385, 1396 (2007). Applicants respectfully submit that one skilled in the financial arts would have had absolutely no motivation to combine the teachings of these disparate references with Daughtery to arrive at the invention as claimed.

With respect to performing an inverse Black procedure to determine the conventional market implied volatility for a strike rate that is different from the forward rate, the Office Action alleges that since it is known to perform an inverse Black procedure, it would have been obvious to implement this procedure in the system of Daughtery in order to yield smooth volatility surfaces. However, this objective is accomplished merely by assuming constant volatility as is currently done with the Black Scholes method. Daughtery already achieves this goal and cannot possibly "invert" an equation it has already implemented to achieve a result that it has already

reached without any inversion. In summary, the Office Action fails to establish a *prima facie* case of obviousness. Withdrawal of the rejection is respectfully requested.

C. Rejection of claim 4, 6, and 7 under 35 U.S.C. §103

Claims 4, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pilipovic in view of Chriss, Daughtery, and Applicant's admitted prior art. This rejection is respectfully traversed.

(i) Even if combined the references would not have resulted in the invention

Even if combined the references would not have resulted in the invention of claim 4. The Office Action thus fails to establish a *prima facie* case of obviousness. Specifically, before considering what would be obvious to one of ordinary skill in the art at the time of the invention, the art must teach or suggest the claim limitations. See MPEP §2143.

As an initial matter, pages 15 and 16 of the Office Action specify that the Examiner has given "little/no" patentable weight to multiple limitations. For reasons not elucidated, the Examiner feels that these limitations do not change the scope of the claim. Applicant notes that in order to establish a *prima facie* case of obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). That is, "[a]ll words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970); *In re Edward S. Lowry*, 32 F.3d 1579, 1582 (Fed. Cir. 1994).

The limitations that the Examiner has chosen to deny "patentable weight" include (1) weighing each option premium by the probability associated with said volatility portion; and (2) summing all weighed option premiums associated with the volatilities to provide a premium for the option. Applicant simply cannot understand how these affirmative limitations fail to limit the scope of the claim and why these limitations are being given "little/no" patentable weight. In fact, applicant requests clarification as to the meaning of "little" patentable weight.

In addition to these features, the combination of references lacks additional features. The Office Action asserts that Pilipovic discloses a method for generating a premium for an option, said option associated with a volatility, a volatility of volatility, and a distribution type. The Office Action acknowledges that Pilopovic fails to disclose volatility of volatility and supplements Pilopovic with Chriss to show this features.

The Office Action then acknowledges that both Pilopovic and Chriss fail to disclose determining an option premium for each volatility portion by employing a volatility premium process. However, as fully explained in the previous response and as set forth above, Daughtery fails to disclose this feature. Daughtery does disclose the Black Scholes equation for calculating an option price. However, Daughtery and all of the other references fail to disclose "volatility portions".

With respect to dividing the volatility distribution graph into a plurality of portions, each of said portion corresponding to a volatility, each said portion being associated with a probability, the Office Action admits that Daughtery, Chriss and Pilopovic fails to disclose this feature and relies instead on Official Notice and/or Yuguchi to disclose this feature. (*Applicant notes that Yuguchi is not listed as an applied reference against claims 4, 6, and 7 in the*

statement of the rejection on page 13 of the OA.) The Office Action alleges that the integration

of the graph over the volatility range corresponding to each slice provides a probability for the

volatility.

Applicant traverses the assertion that this technique is well known in the art for

calculating an option premium. Furthermore, Yuguchi fails to disclose this feature. In fact,

Yuguchi is non-analogous art and discloses a technique for equalizing transmission loss in an

equalizer network. Yuguchi does not even mention volatility and thus is completely void of any

suggestion of the claimed feature.

Furthermore, with respect to the use of the equations shown in claim 4, the Examiner

asserts that the burden is on the applicant to establish non-obviousness. Applicant respectfully

submits that the Examiner has misplaced the burdens. It is the burden of the PTO to establish a

prima facie case of obviousness and this has not been done. The examiner bears the initial

burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does

not produce a *prima facie* case, the applicant is under no obligation to submit evidence of

nonobviousness. See MPEP §2142.

As set forth above with respect to claim 2, the derivation of the equations in the claims is

not part of the claimed invention. Applicant has no obligation to provide this derivation or even

to be aware of how it is accomplished. The patent application fully discloses the preferred

embodiment and best mode of practicing the invention. While the Applicant is supportive of the

Examiner's quest for background information and has complied as fully as possible, even going

beyond the duty of disclosure to search prior art references, Applicant respectfully submits that

the claims presented for examination are fully supported by the specification and are clear and

definite and are in condition for examination. If the Examiner is unable to find relevant prior art,

either through the Examiner's own efforts or the supplemental extended efforts made by the

Applicant, then the Examiner should allow the claims. As set forth above, before considering

what would be obvious to one of ordinary skill in the art at the time of the invention, the art must

teach or suggest the claim limitations. See MPEP §2143. No reference on record discloses or

renders obvious the use of this volatility premium calculation equation in the claimed method.

(ii) No motivation would have existed to combine the references

With respect to the secondary references, as set forth in the Office Action, Chriss

illustrates that the concept of stochastic volatility is known but makes no suggestion of

implementing this concept for generating a premium for an option as required by claim 4. As

previously explained, Daughtery discloses the Black Scholes algorithm for calculating an option

premium. Furthermore, the summation in Daughtery is over "n", which is the number of periods

until expiration for an expiring option, not over multiple volatilities. The single volatility

variable is represented by "S" in Daughtery. The volatility "S" in Daughtery is assumed to be

constant. Therefore, Daughtery does not even disclose a "volatility range" and most certainly

fails to disclose dividing a volatility graph into a plurality of vertical slices, wherein each slice

corresponds to a volatility.

Furthermore, the additional secondary references including Yuguchi and Official Notice

or admitted prior art fail to obviate the deficiencies of Pilipovic identified above. As set forth

above, multiple features remain lacking. Furthermore, clearly no reason would have existed to

modify Pilipovic to include the many steps of the claimed method that Pilipovic lacks. The key

to supporting any rejection under 35 U.S.C. § 103 is the clear articulation of the reason(s) why

the claimed invention would have been obvious. *KSR International Co. v. Teleflex Inc.*, 82

USPQ2d 1385, 1396 (2007). Applicant respectfully submits that one skilled in the financial arts

would have had absolutely no motivation to combine the teachings of these disparate references

with Pilipovic to arrive at the invention as claimed.

Claims 6 and 7 contain similar limitations to claim 4 and an identical rejection and

therefore the rejections of claims 6 and 7 are traversed on the same grounds sound forth above

with respect to claim 4. Withdrawal of the rejection is therefore respectfully requested.

> D.   Rejection of claims 5 and 8 under 35 U.S.C. §103

Claims 5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pilipovic

in view of Chriss in view of Daughtery in view of Applicant's admitted prior art and in view of a

non-patent literature titled Financial Engineering News. This rejection is respectfully traversed.

FEN fails to obviate the above-noted deficiencies with respect to independent claims 4 and 6.

Accordingly, because claims 5 and 8 depend from claims 4 and 6 respectively, these claims

define over the art of record for at least the reasons set for above with respect to claims 4 and 6.

Withdrawal of the rejection is respectfully requested.

IV.   Conclusion

As set forth above, applicant respectfully submits that all claims are in condition for

allowance. Withdrawal of all rejections and prompt passage to issuance are earnestly requested.

In the event Applicant has overlooked the need for an extension of time, payment of fee, or

additional payment of fee, Applicant hereby petitions therefore and authorizes that any charges

be made to Deposit Account No. 50-4494.

Should the Examiner have any questions regarding any of the above, the Examiner is respectfully requested to telephone the undersigned at 202-346-4016.

Dated: March 9, 2009   Respectfully submitted,

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